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NXP, B.V.

NXP INTELLECTUAL PROPERTY & LICENSING

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1109 MCKAY DRIVE

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EXAMINER

CHHAYA, SWAPNEEL

ART UNIT

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Arguments

The Office Action dated June 26, 2009, lists the following new grounds of rejection: claims 1-3, 7, 9-13 and 15 stand rejected under 35 U.S.C. § 102(b) over Coldren (U.S. Patent No. 4,252,864); and claims 8 and 14 stand rejected under 35 U.S.C. § 103(a) over the '864 reference in view of Sakamoto (U.S. Patent No. 6,975,022). Applicant traverses all of the rejections and, unless explicitly stated by the Applicant, does not acquiesce to any objection, rejection or averment made in the Office Action. As various rejections are repeated from the previous Office Action without addressing Applicant's traversals (contrary to the requirements of M.P.E.P. § 707.07(f)), Applicant fully incorporates its traversals of record herein. The rejections of record have failed to directly address all of Applicant's claim limitations, in relying upon general citations as allegedly corresponding to entire claims, without providing any explanation as to where in the cited references correspondence is provided to each of multiple claim limitations. Despite Applicant's traversals, the Response to Arguments section attempts to address only a few limitations, yet in doing so fails to overcome the lack of correspondence, while further ignoring multiple limitations to which specific correspondence has not been asserted. The instant Office Action also fails to address multiple claim limitations as presented via amendment in Applicant's previous response of record. In short, the Office Action has failed to clearly explain "[t]he pertinence of each reference" so that "the applicant has the opportunity to provide evidence of patentability and otherwise reply completely" as required under M.P.E.P. § 706. Accordingly, Applicant believes that all rejections are improper for failing to establish correspondence to the claimed invention. The following addresses this lack of correspondence in greater detail, as well as the impropriety of the rejections under § 103 in view of the lack of motivation/teaching away in the references themselves.

The § 102(b) and § 103(a) rejections, each of which is based upon the '864 reference, are improper because the Office Action has not established correspondence between the cited '864 reference (either alone or in combination with the '022 reference). For example, none of the asserted references provides correspondence to a lead frame having non-engaging end portions that electrically connect to opposite

Art Unit: 2895

sides of a semiconductor element (see, e.g., independent claims 1 and 3). In contrast, the correspondence alleged in the Office Action (see page 13) is not directed to a lead frame, and instead describes a contact on a semiconductor element (chip) itself (see "contact area 24" in Figure 3). As a further example, neither reference teaches aspects regarding a lead frame having connection conductors that are located within an outer perimeter of the frame, and connectors that respectively freely extend in order to secure a semiconductor element (i. e., the Office Action cites to connectors that are fixed at both ends). Because neither reference teaches these aspects, no reasonable interpretation of the asserted prior art, taken alone or in combination, can provide correspondence. As such, the rejections fail.

The applicant has argued that none of the asserted references provides correspondence to a lead frame having non engaging end portions that electrically connect to opposite sides of a semiconductor element, and in contrast the correspondence alleged in the office action is not directed to a lead frame and instead describes a contact on a semiconductor chip. It is unclear what the applicant's argument is, the reference of '864 is clearly directed towards a lead frame and page 13 of the office action is directed towards the response to applicant's arguments. The applicant is stating that the office action is not asserting a lead frame but then references the arguments section to assert what the office action is stating. Furthermore, the applicant argues that neither references teaches connection conductors located within an outer perimeter of the frame, this is contradictory to Fig. 4 of the '864 reference. With regards to connectors that respectively freely extend in order to secure a semiconductor element, the statement itself is contradictory in that how can an element that is freely extending secure anything, in order to secure something a position has to be fixed.

More specifically, referring to Figures 4 and 5 of the '864 reference below, the asserted "connection conductors" (e.g., 74) is not within a perimeter of any lead frame, and the lower supporting region 34 (a central portion of the lead frame engaged to carrier strips 30 and 32) is thus fixed at both ends.

Accordingly, these cited portions of the '864 reference fails to correspond to claim limitations as asserted, including those directed to connectors having a "non-engaging end portion within a perimeter of the frame" (see independent claim 1) and/or having "freely extending end portions" (see independent claim 3).

In addition, while end portions 62 and 74 are not engaged, they both connect to the same side of a chip (see, e.g., Figure 5 above, showing end portion 62 extending into an opening 70 in end portion 74). Thus, there is no disclosure of two end portions that respectively engage opposite sides of a semiconductor element as claimed.

With regards to this argument the examiner would like to note that while one engages the center the other engages the periphery, the two sides are opposite one another, and the center as opposed to the periphery, are two opposing sides of a semiconductor element.

The cited portions of the '864 reference also fail to provide correspondence to other specific claim limitations, such as the method-based limitations in claim 5 (and relative to claim 13) directed to characterizing the bends of the connection conductors. For instance, respective portions of a lead frame are bent at 90 degrees along an out-of- plane bending axis, with an end of the conductor corresponding to the thickness of a semiconductor element again bent through 90 degrees. The Office Action's apparent attempt (see page 13) to address Applicant's traversals regarding these matters amounts to an unsupported assertion of what the cited conductors "would have to go through" without providing actual correspondence to these limitations (in violation of § 102, yet further failing to show motivation/suggestion under § 103). Regarding the Examiner's indicated confusion of the limitations in

Art Unit: 2895

claim 13, Applicant notes the cited references similarly fail to disclose related limitations involving connection conductors bent along axes at oblique angles as claimed, with respective arrangements.

In view of the above, Applicant therefore requests that the § 102(b) rejections be

In response to this argument, the examiner calls the applicant's attention to figures 4 and 5 of the reference which show the conductors bending 180 degrees towards the center of the frame, to further clarify, first the conductors are at a 0 degree axis, then at a point the conductors are at 90 degrees and finally coming to rest at 180 degrees, that is the extent of examiner's meaning with the term "would have to go through". With regards to the conductors bent along axes at oblique angles as claimed, presuming the center of the frame longitudinally the two conductors are bent at oblique angles.

Applicant further traverses the § 103 rejection of claims 8 and 14 because the cited references teach away from the Office Action's proposed combination, as established by Applicant's traversals of record. The Response to Arguments section of the Office Action recites some unrelated argument about what claims 8 and 14 mention, but fails to address Applicant's traversals identifying improprieties with the proposed combination of references. That is, Applicant is not asserting that claims 8 or 14 require moving a semiconductor element, but rather that combining the references as asserted to arrive at the claimed invention would entail moving the member 30 as consistent with the Office Action. However, the '022 reference explicitly teaches away from such movement in teaching that member 30 is fixed in place. The proposed combination of references thus directly contradicts the purpose and teachings of the '022 reference. Consistent with the recent Supreme Court decision in KSR1, M.P.E.P. § 2143.01 explains the long-standing principle that a § 103 rejection cannot be maintained when the asserted modification

Art Unit: 2895

undermines either the operation or the purpose of the main reference - the rationale being that the prior art teaches away from such a modification. See KSR at 1742 ("[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious."). Under M.P.E.P. § 2143.01, the rejections cannot be maintained.

The § 103(a) rejection of claims 8 and 14 over the '864 reference in view of the '022 reference are also improper because the cited references fail to provide correspondence to claims 8 and 14 as asserted. As the Office Action has (again) cited to multiple figures and discussion without providing a clear explanation as to which portions of the references discuss limitations (i. e., those directed to a hole and to a pusher member), Applicant has reviewed the references but cannot ascertain (operable) disclosure of various claim limitations. For instance, the cited portions of columns 8 and 9 of the '022 reference do not appear to discuss any pusher member or moving any semiconductor element, which is consistent with the Office Action's indication (see page 14) that "[t]he word "push" can be defined to "press against forcefully without moving." While Applicant appreciates the Examiner's definition, this definition fails to provide correspondence to claim limitations directed to pushing a semiconductor element "between the connection conductors" (i. e., by moving the element). Accordingly, neither reference discloses moving a semiconductor element with a pusher member as claimed.

KSRInt'l Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007)

Applicant's arguments are unclear, page 10 of the action clearly discusses the concept of a pusher member.

As pointed out in Applicant's previous response of record, claim 16 was not listed in the statement of any rejection as required by the M.P.E.P. and under applicable law. The instant Office Action again fails to list

Art Unit: 2895

claim 16 as rejected under §§ 102, 103 or otherwise. While claim 16 is discussed after certain rejections under § 102, the Office Action has not clarified any rejection of claim 16 by listing any reference under which the claim is rejected or otherwise including the claim in any statement of rejection. Accordingly, as the record stands (for Appeal), Applicant would understand that no valid rejection of claim 16 remains.

In response to this argument, the examiner would like to bring attention to page 9 of the rejection which shows a clear rejection, and since applicant has submitted that it is discussed after the 102 rejection, the logical conclusion would be that it is part of the 102 rejection. Furthermore, the office action summary clearly shows that claim 16 has been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SWAPNEEL CHHAYA whose telephone number is (571)270-1434. The examiner can normally be reached on Monday- Thursday 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards can be reached on 571-272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2895

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SC

**/N. Drew Richards/
Supervisory Patent Examiner, Art Unit 2895**